

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of : Zhun Zhong  
Serial No. : 10/538,113  
Confirmation No. : 8864  
Filing Date : June 8, 2005  
Group Art Unit : 2618  
Examiner : Pablo Tran  
Att. Docket : US 020553

**APPEAL BRIEF**  
On Appeal from Group Art Unit 2618

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed January 8, 2009 and in response to the final Office Action of October 8, 2008.

Appellant hereby petitions for a 1 month extension of time bringing the date for response to April 8, 2009.

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### **I. REAL PARTY IN INTEREST**

The real party in interest is Koninklijke Philips Electronics N.V., the assignee of record.

### **II. RELATED APPEALS AND INTERFERENCES**

Appellant is not aware of any pending appeals, judicial proceedings, or interferences which may be related to, directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

### **III. STATUS OF CLAIMS**

- a) Claims 1-30 are pending.
- b) Claims 10-17 and 23-30 are withdrawn from consideration.
- c) Claims 1-8 and 18-21 stand rejected and are the subject of this appeal.
- d) Claims 9 and 22 are objected to.

### **IV. STATUS OF AMENDMENTS**

The claims listed in section "VIII. Claims Appendix" of this Appeal Brief correspond to the claims submitted in Appellant's response of July 1, 2008. No claim amendments have been submitted following Appellant's response of July 1, 2008. Nor are any amendments pending.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

It should be explicitly noted that it is not the Appellant's intention that the currently claimed or described embodiments be limited to operation within the illustrative embodiments described below beyond what is required by the claim language. Further description of the illustrative embodiments are provided indicating portions of the claims which cover the illustrative embodiments merely for compliance with requirements of this appeal without intending to read any further interpreted limitations into the claims as presented.

The claimed invention, as recited in claim 1, is directed to a method for minimizing a communication service disruption period during a handoff of a mobile station (STA) in a wireless local area network (WLAN), (page 2, line 15 to page 6, line 26; page 8, line 22 to page 10, line 27) the method comprising: providing a plurality of access points (APs) in the network with an assigned channel of operation and a pre-configured nearest-neighbor table comprised of records (page 5, line 20-29; page 8, lines 23-31; page 9, lines 7-27), where each record includes at least a first field identifying a nearest neighbor AP and a second field identifying said nearest neighbor AP's channel of operation (page 5, line 25-31; for example table I); transmitting said pre-configured nearest-neighbor table from said plurality of APs to associated STAs (page 6, line 12 to page 7, line 30; page 8, line 29 to page 9, line 5; Figs 3a, 3b, 3c, 4a, 4b, 4c, 5b); and performing a prioritized search by said STA by first searching in each of said nearest neighbor AP's channel of operation as identified in said transmitted nearest-neighbor table to locate at least one candidate AP to form a new association with in said handoff (page 8, lines 2-21).

The claimed invention, as recited in claim 18, is directed to a system for minimizing a communication service disruption period which occurs during handoffs in a wireless local area

network (WLAN) (Fig. 2; page 2, line 15 to page 6, line 26; page 8, line 22 to page 10, line 27), the system comprising: means for providing a plurality of access points (APs) in the network with an assigned channel of operation and a pre-configured nearest-neighbor table comprised of records (page 5, line 20-29; page 8, lines 23-31; page 9, lines 7-27), where each record includes at least a first field identifying a nearest neighbor AP and a second field identifying said nearest neighbor AP's channel of operation (page 5, line 25-31; for example table I); means for transmitting said pre-configured nearest-neighbor table from said plurality of APs to associated stations (STAs) (page 6, line 12 to page 7, line 30; page 8, line 29 to page 9, line 5; Figs 3a, 3b, 3c, 4a, 4b, 4c, 5b); and means for performing a prioritized search by said STA by first searching in each of said nearest neighbor AP's channel of operation as identified in said transmitted nearest-neighbor table to locate at least one candidate AP to form a new association with in said handoff (page 8, lines 2-21).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

- A. Whether claims 1 – 8 and 18 – 21 are properly rejected under 35 USC 103(a) as being obvious over US Patent 6,993,334 (Andrus).
- B. Whether claim 4 is properly rejected under 35 U.S.C. 103(a) as being unpatentable over Andrus in view of Korpela et al. (6,510,146).

## **VII. ARGUMENT**

Appellant respectfully traverses the rejections in accordance with the detailed arguments set forth below.

### **A. Claims 1 – 8 and 18 – 21 are not properly rejected under 35 U.S.C. §103(a) as being unpatentable over Andrus.**

#### **1. Claim 1**

It is respectfully submitted that the Examiner has failed to establish a prima facie case of obviousness. The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. 103 is set forth in MPEP § 706.02(j):

“To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

If the above-identified criteria are not met, then the cited reference fails to render obvious the claimed invention and, thus, the claimed invention as recited in claim 1 is distinguishable over the cited reference and the rejections should be reversed.

Appellant respectfully disagrees that Andrus renders obvious independent claim 1. For example, claim 1 recites in part:

“performing a prioritized search by said STA by first searching in each of said nearest neighbor AP’s channel of operation as identified in said transmitted nearest-neighbor table to locate at least one candidate AP to form a new association with in said handoff.”

On page 2 of the final Office Action Andrus, Figs. 3 and 4 and col. 9, line 3 to col. 11, line 25, is pointed to as describing appellant’s claimed features. However, Andrus only describes that a neighbor list is received by an access terminal and stored in a cache. The access terminal measures the quality of the channels in the neighbor list. Specifically, the quality of neighbor access points is measured on the channel associated with each access point in the neighbor list/channel cache (col. 9, lines 56-62, emphasis added).

This is different from appellant’s invention recited in claim 1 because Andrus does not teach performing a prioritized search by said STA by first searching in each of said nearest neighbor AP’s channel of operation as identified in said transmitted nearest-neighbor table (emphasis added). Andrus instead teaches measuring the quality of each access point in the neighbor list/channel cache. There is no suggestion of a prioritized search in Andrus, as specifically recited in appellant’s claim 1.

Furthermore, in Andrus the access terminal decides to handoff or not based on applying the measured quality of the current channel and those of neighboring access points to predetermined criteria (Andrus, col. 10, lines 7-14). Here again, there is no suggestion of a

prioritized search, as specifically recited in appellant's claim 1. Andrus is applying the measured quality to predetermined criteria to determine a handoff, which is different from a prioritized search by said STA by first searching in each of said nearest neighbor AP's channel of operation.

In the case of handoff Andrus describes that the access terminal can receive the neighbor list from the new access point, which may contain additional entries that may be added to the cache. The process then returns to continue monitoring the relative quality of the current channel and the channels of neighbor access points (col. 11, lines 6-26). Thus, Andrus is clear that each neighbor access point is monitored for channel conditions. There is no mention or suggestion of a prioritized search, as particularly recited in appellant's claim 1.

Furthermore, it is admitted in the Office Action that Andrus fails to teach or suggest Appellant's feature of "where each record includes at least a first field identifying a nearest neighbor AP and a second field identifying said nearest neighbor AP's channel of operation," as recited in claim 1. The Examiner relies on Official notice that the feature is well known. In the "Response to Arguments" section of the final Office Action the Examiner states that Feder et al. (US Pat. No. 6,522,881) supports the Examiner's Official notice at column 6, lines 9-24 , and claim 12. However, a review of the cited sections of Feder et al. fails to find any teaching of appellant's claimed feature.

Feder et al. simply describes each AP transmits a beacon which includes a neighbor list, which the WM 270 extracts from the beacon to identify neighboring APs and their assigned channels. Thus, Feder et al. does not support the Examiner's contention that appellant's claimed features of each record includes at least a first field identifying a nearest neighbor AP and a second field identifying said nearest neighbor AP's channel of operation. Appellant submits that the facts asserted to be well-known, or to be common knowledge in the art are not capable of

instant and unquestionable demonstration as being well-known and Feder et al. does not support the Examiner's position.

Appellant respectfully submits that for at least the above mentioned reasons the cited reference Andrus fails to render obvious the invention as recited in claim 1, which is therefore distinguishable over Andrus and the rejection should be reversed.

**2. Claims 2-8**

Claims 2-8 depend from claim 1 and include at least the above distinguishing features discussed with regard to claim 1. Each dependent claim also includes further features not found or suggested by Andrus. Appellant essentially repeats the above discussion of claim 1 and further points out that Andrus does not disclose the additional features recited in claims 2-8.

For example, claim 2 recites in part: sequentially searching those remaining channels of operation in said network not included in said table in the case where said at least one candidate AP was not located (emphasis added). The Examiner points to Andrus col. 9, line 3 to col. 11, line 25. A review of the cited sections of Andrus fails to find any mention or suggestion of the features recited in claim 2.

Claim 3 recites in part: wherein transmitted pre-configured nearest-neighbor table is transmitted via a modified probe response frame including said pre-configured nearest-neighbor table. The Examiner admits the features are not found in Andrus but takes Official notice.

It is unclear whether the Examiner relies on personal knowledge of the facts or those of a skilled artisan in his statement. If this is the case, then "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." In re Kotzab, 1371.

The MPEP provides guidelines for relying on official notice and personal knowledge, which the Examiner did not follow in this case:

Official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. While "official notice" may be relied on, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113. Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)) ...

When a rejection is based on facts within the personal knowledge of the examiner, the data should be stated as specifically as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner. Such an affidavit is subject to contradiction or explanation by the affidavits of the applicant and other persons.

See MPEP §2144.03. The examiner must provide an affidavit stating facts within his personal knowledge or an affidavit by a skilled artisan or some other evidence which supports this conclusion since it is clear that the facts asserted to be well-known, or to be common knowledge in the art are not capable of instant and unquestionable demonstration as being well-known.

In rejecting claims 5-8 the Examiner again relies on Official notice. The appellant essentially repeats the above arguments from claim 3 pointing out why claims 5-8 are not obvious.

Accordingly, since Andrus fails to teach each and every feature of claims 2-8, claims 2-8 are also allowable by virtue of their dependency, as well as the additional subject matter recited therein and the rejection should be reversed.

**3. Claim 18**

Independent claim 18 is directed to a system for minimizing a communication service disruption period which occurs during handoffs in a wireless local area network (WLAN), the system.

On page 3 of the final Office Action the Examiner rejects claim 18 with the same discussion used in rejecting claim 1. Because the Examiner applied the same arguments to claim 18 as to claim 1, appellant essentially repeats the above arguments from claim 1 pointing out why claim 18 is not rendered obvious and is therefore distinguishable over Andrus and the rejection should be reversed.

**4. Claims 19-21**

Claims 18-21 depend from claim 18 and include at least the above distinguishing features discussed with regard to claim 18. Each dependent claim also includes further features not found or suggested by Andrus. Appellant essentially repeats the above discussion of claims 1, 18 and claims 2-8 pointing out that the rejections should be reversed.

**B. Claim 4 is not properly rejected under 35 U.S.C. 103(a) as being unpatentable over Andrus in view of Korpela.**

**1. Claim 4**

It is respectfully submitted that the Examiner has failed to establish a prima facie case of obviousness. Appellant's claim 4 is dependent from claims 1 and 3 and recites in part: wherein said modified probe response frame is transmitted in response to a probe request by said STA.

The Examiner admits Andrus fails to teach the features in claim 3 as pointed out above. Appellant respectfully submits that for at least the above mentioned reasons in claims 1 and 3 the

cited references fails to render obvious the claimed invention and, thus, claim 4 is distinguishable over the cited references and the rejection should be reversed.

### **CONCLUSION**

In light of the above, Appellant respectfully submits that the rejections of claims 1-8 and 18-21 are in error, legally and factually, and must be reversed.

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### **VIII. CLAIMS APPENDIX**

1. (previously presented) A method for minimizing a communication service disruption period during a handoff of a mobile station (STA) in a wireless local area network (WLAN), the method comprising :

    providing a plurality of access points (APs) in the network with an assigned channel of operation and a pre-configured nearest-neighbor table comprised of records, where each record includes at least a first field identifying a nearest neighbor AP and a second field identifying said nearest neighbor AP's channel of operation;

    transmitting said pre-configured nearest-neighbor table from said plurality of APs to associated STAs; and

    performing a prioritized search by said STA by first searching in each of said nearest neighbor AP's channel of operation as identified in said transmitted nearest-neighbor table to locate at least one candidate AP to form a new association with in said handoff.

2. (previously presented) The method of Claim 1, further comprising sequentially searching those remaining channels of operation in said network not included in said table in the case where said at least one candidate AP was not located .

3. (previously presented) The method of Claim 1, wherein transmitted pre-configured nearest-neighbor table is transmitted via a modified probe response frame including said pre-configured nearest-neighbor table.

4. (original) The method of Claim 3, wherein said modified probe response frame is transmitted in response to a probe request by said STA.
5. (previously presented) The method of Claim 1, wherein said transmitted pre-configured nearest-neighbor table is transmitted via a modified beacon frame including said pre-configured nearest-neighbor table.
6. (previously presented) The method of Claim 1, wherein said transmitted pre-configured nearest-neighbor table is transmitted via a dedicated AP channel announcement management frame including said pre-configured nearest-neighbor table.
7. (previously presented) The method of Claim 6, wherein said dedicated AP channel announcement management frame is broadcast to a basic service set (BSS) or unicast to a particular STA in said BSS.
8. (original) The method of Claim 6, wherein said nearest-neighbor table information is represented as a bitmap in said dedicated AP channel announcement management frame.
9. (previously presented) The method of Claim 1, further comprising :  
changing said assigned channel of operation by one of said plurality of APs; and  
performing a frame exchange in accordance with a simple network management protocol (SNMP) between said one of said plurality of APs and all other APs to inform said all other APs of said channel change.

10. (withdrawn) A method for minimizing a communication service disruption period during a handoff of a mobile station (STA) in a wireless local area network (WLAN), the method comprising the acts of:

- (1) transmitting a re-association frame from said STA to a first AP, said re-association frame including a second AP identifier;
- (2) upon receiving the re-association frame at said first AP, storing said second AP identifier in a nearest neighbor table associated with said first AP;
- (3) obtaining, by said first AP, a channel of operation corresponding to said second AP; and
- (4) storing said channel of operation in said nearest-neighbor table.

11. (withdrawn) The method of Claim 10, wherein said first AP is an AP with which said STA is attempting to form an association with in said handoff and said second AP is an AP with which said STA is currently associated with.

12. (withdrawn) The method of Claim 10, wherein said act (3) of obtaining, by said first AP, a channel of operation corresponding to said second AP is achieved via a frame exchange between said first and second APs performed in accordance with a simple network management protocol (SNMP).

13. (withdrawn) A method for minimizing a communication service disruption period during a handoff of an STA in a wireless local area network (WLAN), the method comprising

the acts of:

- (1) transmitting a re-association frame from said STA to a first AP, said re-association frame including at least a second AP identifier and said second AP's corresponding channel of operation; and
- (2) upon receiving the re-association frame at said first AP, storing said second AP identifier and said corresponding channel of operation in a nearest neighbor table associated with said first AP.

14. (withdrawn) The method of Claim 13, wherein said first AP is an AP with which said STA is attempting to form an association with in said handoff and said second AP is an AP with which said STA is currently associated with.

15. (withdrawn) A method for minimizing a communication service disruption period during a handoff of an STA in a wireless local area network (WLAN), the method comprising the acts of:

issuing from a first AP, a move-notification frame including a first AP identifier to a second AP;

upon receiving the move-notification frame at said second AP, storing said first AP identifier in a nearest neighbor table associated with said second AP; and

obtaining, by said second AP, a channel of operation corresponding to said first AP; and storing said channel of operation corresponding to said first AP in said nearest-neighbor table.

16. (withdrawn) The method of Claim 15, wherein said act of obtaining, by said second AP, a channel of operation corresponding to said first AP is achieved via a frame exchange performed in accordance with a simple network management protocol (SNMP).

17. (withdrawn) A method for minimizing a communication service disruption period during a handoff of an STA in a wireless local area network (WLAN), the method comprising the acts of:

- (1) transmitting a move-notification frame from said STA to a first AP, said re-association frame including at least a second AP identifier and said second AP's corresponding channel of operation; and
- (2) upon receiving the move-notification frame at said first AP, storing said second AP identifier and said corresponding channel of operation in a nearest neighbor table associated with said first AP.

18. (previously presented) A system for minimizing a communication service disruption period which occurs during handoffs in a wireless local area network (WLAN), the system comprising:

means for providing a plurality of access points (APs) in the network with an assigned channel of operation and a pre-configured nearest-neighbor table comprised of records, where each record includes at least a first field identifying a nearest neighbor AP and a second field identifying said nearest neighbor AP's channel of operation;

means for transmitting said pre-configured nearest-neighbor table from said plurality of APs to associated stations (STAs); and

means for performing a prioritized search by said STA by first searching in each of said nearest neighbor AP's channel of operation as identified in said transmitted nearest-neighbor table to locate at least one candidate AP to form a new association with in said handoff.

19. (original) The system of Claim 18, wherein said means for transmitting said pre-configured table from said plurality of APs to associated STAs further comprises means for transmitting a modified probe response frame including said pre-configured nearest-neighbor table.

20. (original) The system of Claim 18, wherein said means for transmitting said pre-configured table from said plurality of APs to associated STAs further comprises means for transmitting a modified beacon frame including said pre-configured table.

21. (original) The system of Claim 18, wherein said means for transmitting said pre-configured table from said plurality of APs to associated STAs further comprises means for transmitting a dedicated AP channel announcement management frame including said pre-configured table.

22. (previously presented) The system of Claim 18, further comprising:  
means for changing said assigned channel of operation by one of said plurality of APs;  
and  
means for performing a frame exchange in accordance with a simple network management protocol (SNMP) between said one of said plurality of APs and all other APs to inform said all other APs of said channel change.

23. (withdrawn) A system for minimizing a communication service disruption period during a handoff of a mobile station (STA) in a wireless local area network (WLAN), the system comprising:

means for transmitting a re-association frame from said STA to a first AP, said re-association frame including a second AP identifier;

means for storing said second AP identifier in a nearest neighbor table associated with said first AP upon receiving the re-association frame at said first AP;

means for obtaining, by said first AP, a channel of operation corresponding to said second AP; and

means for storing said channel of operation in said nearest-neighbor table.

24. (withdrawn) The system of Claim 23, wherein said first AP is an AP with which said STA is attempting to form an association with in said handoff and said second AP is an AP with which said STA is currently associated with.

25. (withdrawn) The system of Claim 23, further comprising means for obtaining, by said first AP, a channel of operation corresponding to said second AP via a frame exchange in accordance with a simple network management protocol (SNMP).

26. (withdrawn) A system for minimizing a communication service disruption period during a handoff of an STA in a wireless local area network (WLAN), the system comprising:

means for transmitting a re-association frame from said STA to a first AP, said re-association frame including at least a second AP identifier and said second AP's corresponding

channel of operation; and

means for upon receiving the re-association frame at said first AP, storing said second AP identifier and said corresponding channel of operation in a nearest neighbor table associated with said first AP.

27. (withdrawn) The system of Claim 26, wherein said first AP is an AP with which said STA is attempting to form an association with in said handoff and said second AP is an AP with which said STA is currently associated with.

28. (withdrawn) A system for minimizing a communication service disruption period during a handoff of an STA in a wireless local area network (WLAN), the system comprising:

means for issuing from said first AP, a move-notification frame including a first AP identifier to said second AP ;

means for storing said first AP identifier in a nearest neighbor table associated with said second AP upon receiving the move-notification frame at said second AP;

means for obtaining, by said second AP, a channel of operation corresponding to said first AP; and

means for storing said channel of operation corresponding to said first AP in said table.

29. (withdrawn) The system of Claim 28, wherein said means for obtaining, by said second AP, a channel of operation corresponding to said first AP is achieved via a frame exchange in accordance with a simple network management protocol (SNMP).

30. (withdrawn) A system for minimizing a communication service disruption period during a handoff of an STA in a wireless local area network (WLAN), the system comprising:

means for transmitting a move-notification frame from said STA to a first AP, said re-association frame including at least a second AP identifier and said second AP's corresponding channel of operation; and

means for storing said second AP identifier and said corresponding channel of operation in a nearest neighbor table associated with said first AP upon receiving the move-notification frame at said first AP.

**IX. EVIDENCE APPENDIX**

No evidence has been submitted pursuant to §§ 1.130, 1.131, or 1.132 of this title nor any other evidence entered by the examiner and relied upon by appellant in the appeal.

**X. RELATED PROCEEDINGS APPENDIX**

Appellant is not aware of any appeals or interferences related to the present application.